

REMARKS

Claim Amendments

Claim 9 has been cancelled.

Substance of Interview

The Applicant thanks the Examiner for her courtesy in granting an interview on October 6, 2011. Applicant confirms the substance of the interview summarized by the Examiner, namely that Applicant indicated that the "cabbage extract" is a concentrate with as much water removed as possible. The examiner indicated that this was not taught in the specification as filed. The examiner suggested that if "cabbage extract" is a term of art that one of ordinary skill would understand to be a liquid extract with as much water removed as possible and having a consistent composition of the indicator compounds, a declaration providing evidence of this would be considered (evidence such as specifications of commercial products, references, etc should be provided). Applicant indicated that not all indicators worked in the composition and that the cabbage extract provided an unexpected result. The examiner indicated that a declaration comparing the cabbage extract to other indicators demonstrating an unexpected result would be considered.

Claim Rejections – 35 USC § 112 First Paragraph

The Examiner rejected claim 9 as failing to comply with the written description requirement on the ground that there is no disclosure of citric, acetic or orthophosphoric acid in the disclosure as originally filed. This claim has been cancelled.

Claims 2 and 6-9 stand rejected as failing to comply with the written description requirement, on the ground that the specification does not reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner asserts that there is no description of the cabbage extraction process, and because there are theoretically various possible

ways to extract cabbage, the claims, and in particular claims 2 and 7, are not enabled. Applicant traverses this objection in view of the remarks that follow.

One of ordinary skill in the art would understand a red cabbage extract to mean a liquid extract of cabbage with as much water removed as possible and having a consistent composition of the indicator compounds.

Red cabbage extract is purchased from suppliers and has consistent colour values among suppliers (See Declaration of K. Tanaka at para. 14 -16). For example, the suppliers Colarome and Roha provide a red cabbage extract that has the same colour value (see Declaration of K. Tanaka at para. 14 -15).

The colour value reported by these two suppliers is the standard concentration that is used in the industry (see Declaration of K. Tanaka at para. 16).

Accordingly, the Applicant submits that the term “red cabbage extract” is a term of art that would be understood by persons working in this area to be an extract having as much water removed as possible and with a consistent composition of indicator compounds (See Declaration of K. Tanaka at para. 17).

Claim Rejections – 35 USC § 112 Second Paragraph

Claims 2 and 6-9 stand rejected as failing to comply with the written description requirement on the ground that these claims fail to particularly point out and distinctly claim the subject matter for which the Applicant regards as the invention. The Examiner asserts that because there is no description of how the indicator is extracted, it is not clear what a concentration of “about 27.5%” means, within the concentrate. Applicant traverses this objection in view of the remarks that follow.

As discussed above, the term “red cabbage extract” is a term that would be understood by one of ordinary skill in the art to be an extract having as much water removed as possible and with a consistent composition of indicator compounds (see Declaration of K. Tanaka at para. 13 -17). Thus, the meaning of a concentration of “about 27.5%” of the indicator within the concentrate would be clear to one of ordinary skill in the art.

Claim Rejections – 35 USC § 103

Claims 2 and 6-9 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Fisher (U.S. Patent No. 5,278,132) in view of Freadman (U.S. Patent No. 6,589,761). The Examiner asserts that Fisher teaches a concentrate having a pH modifying agent and pH indicator such as methyl red, but fails to teach a naturally occurring pH indicator. The Examiner further asserts that Freadman teaches that a natural food or plant pH indicator from red cabbage can be used as an alternative to methyl red. Thus, the Examiner states that it would have been obvious to use a red cabbage extract indicator in the invention of Fisher because it is an alternative to the indicators of Fisher as taught by Freadman. Further, with respect to claims 2 and 7, the Examiner asserts that it would have been obvious to optimize the amount of indicator in order to attain the colouration properties taught by Fisher – that is, to use a greater volume of less pure indicator extract to achieve the same result.

Applicant traverses this rejection in view of the comments above and the additional remarks that follow. As such, reconsideration and withdrawal of this rejection is requested.

In respect of the Examiner's comments regarding the red cabbage extraction process and the meaning of "about 27.5%", these have been addressed above.

Applicant submits that one of skill in the art would not have a reasonable expectation of success in respect of using a natural pH indicator in place of a types of indicators shown to be useful by Fisher. Fisher teaches that simple organic molecules methyl red, resorcin blue, 2,5-dinitrophenol and chlorophenol red are useful in the agricultural compositions disclosed therein. Fisher does not mention using a naturally occurring pH indicator in the agricultural compositions.

One skilled in the art of Fisher would not turn to Freadman for any teachings in respect of agricultural compositions, or in respect of indicators useful in these compositions because Freadman relates to methods for detecting bacteria in food substances (see Declaration of K. Tanaka at para. 23).

One skilled in the art of Fisher would not have any reasonable expectation that success would be achieved in replacing the simple organic molecules used by Fisher with a naturally occurring pH indicator such as red cabbage extract. The molecules used by Fisher are simple and well-characterized, whereas red cabbage extract is a complex extract of red cabbage (see Declaration of K. Tanaka at para. 24 - 26).

The following secondary considerations may be considered in determining non-obviousness; (1) long felt but unresolved needs, (2) unexpected results; (3) the invention's commercial success, (4) the failure of others, (5) skepticism by experts, (6) praise by others, (7) teaching away by others, (8) recognition of a problem, (9) copying of the invention by competitors, and (10) other relevant factors. (see MPEP §2145).

There was a long felt but unresolved need in the art for a naturally occurring pH indicator that can be used in compounds which are used for crops and animals. (See: Present Application at Background; Declaration of K. Tanaka at para. 6 and 28). The present invention solves and fulfills this long felt but unresolved need by providing a naturally occurring pH indicator that can be used in agricultural compositions.

The present invention also yields unexpected results. As explained in the Declaration by K. Tanaka, at paragraphs 18 to 21, not all naturally occurring indicator compounds tested by the Applicant worked in the agricultural compositions. Grape extract did not work because it faded over time, and lichen extract did not work because it was too weak to be of use. There was no reasonable expectation of success using red cabbage extract.

It is not possible to predict which naturally occurring indicators will work and which won't. The inventors of the present invention unexpectedly discovered that red cabbage extract would work if used in high concentrations. This result was not expected nor predicable (see Declaration of K. Tanaka, at para. 22 and 26).

The Applicants' red cabbage pH concentrate has also been commercially successful (see Declaration of K. Tanaka at para. 29).

In view of the foregoing, the Applicant submits that the subject matter of claims 2 and 6 to 8 is not obvious for all of the reasons provided above. Withdrawal of the claim rejections under 35 U.S.C. §103(a) is requested.

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Applicant submits that the application is in condition for allowance, and requests that the Examiner withdraw the rejections against the claims.

Respectfully submitted,
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